Castlemaine Naturalist

September 2012

Vol. 37.8 #402

Monthly newsletter of the Castlemaine Field Naturalists Club Inc.

Great Egret Photo – Joy Weatherill

Ern Perkins on Long Term Monitoring

At the August meeting Ern Perkins discussed one of his favourite topics – systematic environmental monitoring over some time, "the only effective way of measuring change".

He opened by recommending two books which have influenced him on the topic; Mary White's "After the Greening – the browning of Australia" (1994), and Ron Hateley's "The Victorian Bush – its original and natural condition" The first covers long term changes related to past climate change based on methods such as palynology (the study of plant spores and pollen in age determined sediments of lake beds and the like), and the second which thoroughly investigated the historical records of vegetation changes in Victoria. Old photos and paintings show for instance, at Swan Hill there were no trees along the river, where now we assume it is characterised by lots of Red Gums. He noted an explorer's description of this area, when they were "walking through fallen and decayed timber with no sign of it ever having been burnt". Change occurs, and escapes us through lack of records.

Ern and Lesley have for some years carried out systematic monitoring in the local area. This falls into three categories – photo points, bird counts, and vegetation quadrats.

Photo points

In 1999 the CFNC decided to do something about long term monitoring. Photos in the pre-digital era were much more expensive and GPS was not as accurate, but positions could be recorded, so the photo point project was undertaken, with the intention that it should be repeated in about ten years time. Paper sheets were compiled with a photo, description and location, and a copy was held by the Historical Society. A database was put onto CD. Locations were all within the Shire of Mt. Alexander.

Quite a few technical changes have occurred since that time, and Ern explained some of the problems we now face in repeating the exercise, such as taking into account a change in the Australian mapping grid co-ordinates. Ern showed examples of previous photos he had taken as far back as the seventies, against

comparable recent shots, showing considerable change. Some images however, taken over the last 10 or 12 years, showed very little change, probably owing to little or no growth through the drought. Rivers and creeks generally show much change, and forests in that time show enormous loss of understory over the drought years.

Ern has had difficulty establishing the locations of some of the photos in the project. Some of the early GPS readings were 25 to 50 m. out owing to a built in error imposed by the U.S. Military which has since been lifted. Field GPS can now read to 2 or 3 m. accuracy. Still, Ern made the point that it is much easier to locate photos which include some distinguishing landmark feature. He encouraged the club to replace the existing collection with a new lot of photos. Chris Timewell later announced that some grant money had been secured through Connecting Country to have the collection digitised.

Above is an example of a photo point image used on the excursion the following day. In this case we saw very little change – the large trees were all identifiable and had not grown noticeably.

Bird counts

The Australian Bird Atlas project proposed a method of recording birds, using a fixed area of 2 Ha. (any shape) and recording a session for 20 minutes. Ern and Lesley have established 14 such locations (7 since 1988) which they now survey on a monthly basis (so far 1285 visits).

Trends

Some changes have been dramatic. In early days the Southern White-face was common. Now it is very rare. Ern presented graphs illustrating the trends in bird and species numbers, overlain with straight line plots using the least square method. Some species have remained fairly constant in numbers, e.g., Magpies, Little Ravens, Galahs, Cockatoos, Red Wattlebirds and Crimson Rosellas. When these species were excluded from the graphs, they all showed a downward trend for the remainder.

Ern then described examples of the locations. In some there was an obvious deterioration of the area with the drought being the most probable cause, and this could account for the decline or disappearance of some bird species. For example, where bushy understory had all but gone, there would no longer be species like Blue Wrens. In other places there was less change apparent, but the trend graphs still showed a definite decline in birds, in both species and numbers.

The final count area Ern described was around his home in Doveton st. It is noticeable that trees in the urban area are in much better condition than the bush, and consequently a decline in birds is not so evident in urban gardens. However it is a high risk habitat owing to the prevalence of cats. Ern then related an identical experience to my own when recently a neighbour's cat took to waiting under my Correa, and killed a visiting Spinebill.

Ern urged us to take on a regular count of places we can conveniently visit. One of the alarming things about such surveys is that government do almost none of it. The Bird Atlas contributions are almost entirely by amateurs.

Vegetation Quadrats

About 115 quadrats are regularly surveyed by Ern and Lesley with help from two or three other FNC members. A number of these were set up within and outside control burn areas for comparison over time. Results are fairly unpredictable because of species variability over short distances in the bush.

It appears though, that burns during a drought have more devastating consequences than those in a wet year. In one example, flourishing post fire regrowth after a couple of years died off completely a short time later, underwriting the need to continue monitoring for a number of years to properly evaluate what is happening.

Ern's evaluation is that burning is not necessary to regenerate our type of bush. Many of the plots show a reduction in both species and numbers of plants after burning. Some plots done in other areas showed a considerable increase in weeds following burns. In summary -

> Successful post fire regeneration in a drought is close to zero.
>
> Recovery takes many years. It needs a much longer time scale than is afforded by the formula of 5% per annum to be burnt for 'asset protection'.
>
> There are many unknowns evident from the surveys thus far, pointing to a need for much more research.

In conclusion Ern brought up some important points, including the following:

One of the considerations is what to do with long term monitoring records. The Bird Atlas is an obvious repository for bird counts. Plant surveys are probably best entered on web databases such as the one set up by Connecting Country.

Almost nothing is known about the invertebrates, which are the base of the food chain. The effect of repeated fire on them is at this stage a complete unknown.

A new group has been started [under FOBIF] with the aim of studying the bryophytes of the district.

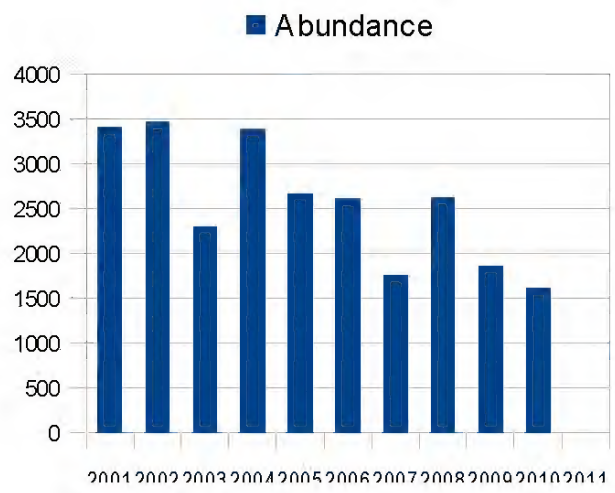
Members should pursue any collections of historic photos, paintings or descriptions which could be useful for evaluating changes.

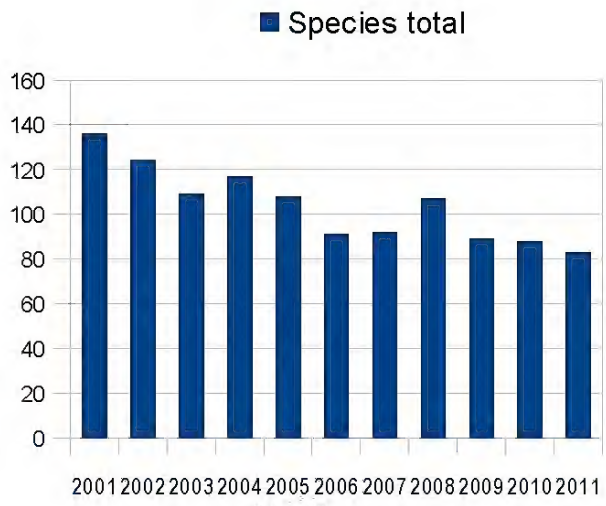
Why do long term monitoring? Erns' answer is "You don't know until you have done it, but the results are always interesting, and ultimately valuable".

Noel Young

Richard Piesse recorded the following flowering plants on the club excursion to Muckleford Forest with Ern on Saturday 11th August; *Acacia acinacea; aspera; genistifolia; pycnantha; baileyana; dealbata; decurrens, Drosera whittakeri, Grevillea alpina, Hovea heterophylla, Pimelea humilis, Pterostylis nana.*

And on 15/8/12 near Poverty Gully channel - *Acacia acinacea; aspera; genistifolia; paradoxa; pycnantha, Bursaria spinosa, Diuris pardina, Goodenia blackiana, Hardenbergia violacea, Hovea heterophylla, Philotheca verrucosa, Pimelea humilis, Rhytidosporum procumbens, Spyridium parvifolium, Tetratheca ciliata.*





Annual BIRD COUNT Graphs for Castlemaine

This is an update of the graphs printed in CN373 (February 2010). The two wet years have been added but do not yet show a change in the overall downward trend since 2001. Unfortunately, these figures reflect the same trend evident in the plots shown by Ern of his bird counts. NB., as our observer numbers were down last year, the abundance number (1328) is omitted on the graph – it may represent a false low. This year's count will be interesting.

Joy Weatherill contributed more of her photos taken of winter birds near her retreat on the Bellarine Peninsula. A small flock of foraging Royal Spoonbills above, and the cover photo this issue features a nicely reflected Great Egret

I found a recently killed little pied cormorant on my property in Barkers Creek. I left it where it was and returned a short time later to see a little eagle standing over the body. The little eagle took off with it's prey in its talons and flew up into a gum tree. I felt quite privileged to witness life and death in the bush. - Lyn Rule.

Observations

- A large flock of Yellow-tailed Black Cockatoos over home heading south toward the Botanical Gardens; and a large flock of Pied Currawongs landed in the Gardens to the consternation of some Grey Currawongs – Denis Hurley
- A **Grey Butcherbird** on Forest Ck, and a **White bellied Cuckoo-shrike** near Metcalfe – Chris Timewell
- Geoff Harris reported four Flame Robins at Barkers Creek
- Natalie De Maccus remarked that a Black Swamp Wallaby uses her Weynton Rd property as a thoroughfare to the Barkers Ck. Denis then remarked that he sees one or two at his place occasionally, but they sometimes become victims of the highway.
- The Happy Valley track was quite active in late August with Welcome Swallows, Crimson Rosella, Blue Wrens, Weebills, Yellow rumped Thornbills, Grey Fantails, Goldfinch, a Grey Shrike-thrush, a Black shouldered Kite, Galahs, Ravens and Magpies – Noel Young

Disclaimer: The opinions expressed in this newsletter are those of the contributors and not necessarily those of the club

A Trip to the Inland - The Rudall river and back

Chris Morris

Despite some early misgivings on the part of others, such as leaving my backpack with binoculars at the Perth hotel, we settled into a routine and pressed on taking the Swan River and the famous Botanical Gardens into account. We hoped to sight Carnabys Black Cockatoo - a very rare bird but had to be content with the standard Red-tailed Black Cockatoo. Strange to find so many shops closed on Tuesday but the "Rose and Crown " made up for it on the way out through Guildford.

Heading out of Perth on the Great Northern Highway we began to work out the experience and two events stand out even at this early stage. One: setting up tents at each camp site and two: driving major distances. 500kms a day was normal and that was where the Guides came in; we didn't have to drive. The crew consisted of two staff for 4wd driving, cooking, finding wildlife, naming native plants, setting up camp, in fact everything the passengers did not wish to turn a hand to and there were only three passengers and a tag along couple.

After the Darling Ranges it was on to the open plains following the wooded grazing lands and wheat belt stretching to the horizon replacing natural bush. There an early meeting with Major Mitchells ignoring us to pick up seed along the roadside. But why "The Great Sandy Desert"? There is nothing very great about it other than the size - the largest Park in Western Australia - and is it the Pilbara or the Mulga that gives it the name. Then there is the question of Desert. After seeing the wildflowers it is brought home how productive a desert it is! For detail the Rudall is 400km east of Newman. Vegetation in the park is a mixture of Bloodwood, Feathertop Spinifex, Kanji and Cork Trees with river Red gums and Coolabah trees along the river flats; wildflowers are many and varied including Mulla Mullas, Wickham Grevilleas, Hakeas (a separate plant list will be provided when available to anyone interested).

Over 90 bird species have been recorded in the park. Rarities and specialties can be supplied and would include the following sightings: Australian Bustard, Painted Finches, Spinifex Pigeon, Diamond Dove, Owlet-nightjar, Australian Ringneck, Budgerigars, Red-backed Kingfisher, Black-breasted Buzzard.

Those taking note of trees would have noted *Callitris preissi*. Those taking note of weather would have enjoyed hearing the temperature was down to minus 1.5c We were now pushing up the Northern Highway taking our turn with the massive three or four rigs hauled by Road Trains. Passed the Granites, and Mt. Morgan, then onto Cue, restored with charming, sandstone buildings. [To be continued]

Wednesday wildflower walks

Commence on Wednesday 19th September at 4 pm

For each Wednesday, an appointed leader will decide the best location at the time for wildflower display. We generally spend about an hour checking it out.

Meet at the Duke St car park. Please be punctual

Bring your Indigenous Plant brochure / field guides, camera

Next meeting promises to be very interesting, with Cassia Read discussing the **'biological soil crusts'**

"Miniature wonderlands of the dry country: What you miss when you don't walk on your knees."

Arid lands across the world share a common ecology with low rainfall, few trees and shrubs, and intriguing carpets of cryptogams protecting the soil (mosses, lichens, fungi and more). Otherwise known as biological soil crusts, these communities of cryptogams are full of interest; they exist at the soil surface in harsh environments and act as ecosystem engineers. Follow me on an exploration of these intriguing microcosms, around the globe and in our own arid lands in the north west of Victoria to see their beauty, discover more about their importance and to understand how we can use this knowledge to manage our dry country.

Kalimna Park pre- burn list

Denis Hurley

After seeing a burn notice at the entrance to the Circuit track off the Kalimna Park tourist road I decided to take some photos of any flowering plants or anything else of interest to field naturalists.

Weather overcast and cool, time 3:15 pm, Saturday 4th August. The sign indicated that the proposed burn was for "Strategic Wildfire Moderation Objectives". Hmm! I have lived in Castlemaine for 42 years, and I don't recall any wildfire in this area!

Critters:
1x 20mm long brown and tan caterpillar on a Grey Everlasting
Many indications of recent Echidna activity
An ant (sp?) on a flowering Rough Wattle

Plants:

Magenta Stork's-bill	*Pelargonium rodneyanum*
Golden Wattle	*Acacia pycnantha*
Spreading Wattle	*A. genistifolia*
Rough Wattle	*A. aspera*
Cootamundra Wattle	*A. baileyana*
Common Rice-flower	*Pimelea humilis*
Common Hovea	*Hovea heterophylla*
Nodding Greenhood	*Pterostylis nutans*
Cat's claws Grevillea	*Grevillea alpina*
Bushy Hakea	*Hakea decurrens*
Rough Mint bush	*Prostanthera denticulata*
Shiny Everlasting	*Bracteantha viscosum*
Purple Coral Pea	*Hardenbergia violacea*
Fairy Wax-flower	*Philotheca verrucosa*
Sweet Bursaria	*Bursaria spinosa* ssp *spinosa*

These along with a very moderate leaf litter cover did not look like a future need to be burnt.

Richard Piesse: Flowering plants at Kororoit Ck wildflower garden (Deer Park) 9th August (Brimbank City Council) - *Acacia acinacea, A. melanoxylon, *Brachyscome anthemoides, Clematis microphylla, Hardenbergia violacea, Kennedia prostrata, *Pycnosorus globosus, *Rhodanthe basaltica* (paper daisy)

*species of the Western Victorian basalt plains.

Castlemaine Field Naturalists Programme
September 2012

Fri September 14 meeting: speaker CASSIA READ on Bryophytes

Sat September 15 field trip: Clinkers Hill bushland reserve with Cassia Read - ***NB** morning excursion leaving **9.30 am**

Tues September 18: Broom pull, Botanical Gardens 9.30 am

(for 1 or 2 hrs., meet at Froome st. west of the bridge)

Wed September 19: First Wednesday Wildflower Walk 4pm.

Fri October 12 meeting: speaker BOB COOK

VISITORS ARE **WELCOME** AT CLUB ACTIVITIES

General meetings - (second Friday of each month, except January) are held in the Uniting Church (UCA) Hall (enter from Lyttleton St.) at 7.30 pm.
Field Trips - (Saturday following the general meeting) leave from the car park opposite Castle Motel, Duke Street at 1.30pm sharp unless stated otherwise. BYO morning and/or afternoon tea. Outdoor excursions are likely to be cancelled in extreme weather conditions. There are NO excursions on total fire ban days.
Business meetings - fourth Thursday of each month, except December, at George Broadways; 24a Greenhill Ave., at 7.30 pm. Members are invited to attend.

Subscriptions for 2012
Ordinary membership: Single $30, Family $40
Pensioner or student: Single $25, Family $30
Subscription includes postage of the monthly newsletter, Castlemaine Naturalist

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